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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,796	02/24/2004	Shoji Sugino	WILL.0008	2187

7590

12/05/2005

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EXAMINER

BARTON, JONATHAN A

ART UNIT PAPER NUMBER

2186

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/784,796	<b>Applicant(s)</b> SUGINO ET AL.	
	<b>Examiner</b> Jonathan Barton	<b>Art Unit</b> 2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-7 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

### DETAILED ACTION

1. This office action is in response to the amendment filed by applicant on 10/21/2005.

#### ***Claim Objections***

2. Claim 2 is objected to because of the following informalities: In line 15 the phrase "information that represent" should read "information that *represents*".  
Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ido et al. (US 2002/0038391) in view of Tzelnic et al. (US 5,944,789).

- a. As for claim 1 Ido discloses
  - i. One or more channel adapters to be a communication interface with respect to the host apparatus (Fig. 1 Item 401, Par. 0026);
  - ii. One or more host data storages in which data from the host apparatus is stored (Fig. 1 Item 506, Par. 0026);

- iii. One or more disk adapters to be a communication interface with respect to the one or more host data storages (Fig. 1 Item 501, Par. 0026);
- iv. One or more operation information storage memories in which operation information of the storage control system is stored (Fig. 1 Item 505, Par. 0026); and
- v. A memory connection section for connecting the maintenance terminal to the operation information storage memory (Fig. 1 – the line connecting items 701 and 505),
- vi. Wherein the maintenance terminal has a disk type storage (Fig. 1 Item 601, Par. 0026),
- vii. The operation information is information that represents an operation state of the storage control system during the storage control system operation, and is used for management of the storage control system (Fig. 4, Par. 0029),
- viii. One or more channel processors are mounted to the respective channel adapters (Fig. 1 Item 501, Par. 0026),
- ix. One or more disk processors are mounted to the respective disk adapters (Fig. 1 Item 501, Par. 0026),
- x. The respective channel processors and the respective disk processors store operation information in the one or more operation information storage memories [1] (Fig. 4, Par. 0029),

- xi. The storage control system outputs the stored operation information directly to the maintenance terminal via the memory connections section (Fig. 4, Par. 0029), and
  - xii. The maintenance terminal receives the operation information from the one or more operation information storage memories [2] (Fig. 4, Par. 0029).
- b. Ido fails to disclose
- xiii. [1] asynchronously with timing at which the operation information is output to the maintenance terminal; and
  - xiv. [2] and stores the received operation information in the disk type storage of the maintenance terminal.
- c. Tzelnic et al. teach
- xv. [1] asynchronously with timing at which the operation information is output to the maintenance terminal (Col. 15 Line 57 – Col. 16 Line 2); and
  - xvi. [2] and stores the received operation information in the disk type storage of the maintenance terminal (Col. 5 Line 64 – Col. 6 Line 4, Col. 6 Lines 46-48).
- d. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the asynchronous write and disk storage of op-info of Tzelnic et al. with the storage control system of Ido et al. because both systems supply a method of storage control and the asynchronous writing is a faster

method of writing (Tzelnic Col. 16 Lines 1-2), and the disk storage of op-info provides a simple common method of storing operation information for a system.

### ***Response to Arguments***

2. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.
3. Applicant's arguments with respect to claims 2-7 have been fully considered and are persuasive, in light of the included amendments to the claims. The rejection of claims 2-7 has been withdrawn.

### ***Allowable Subject Matter***

4. Claims 2-7 are allowed.
5. The following is a statement of reasons for the indication of allowable subject matter:
  - e. Claim 2 contains at least the following allowable subject matter
    - xvii. The one or more second disk adapters read out the stored operation information from the one or more operation information storage memories to store the operation information in the one or more operation information disk type storages, and
    - xviii. The maintenance terminal receives the operation information from the one or more operation information storage memories, and displays information based upon the received operation information without storing

the operation information in the disk type storage of the maintenance terminal.

- f. Claims 3-7 are considered allowable because they depend upon and further limit claim 2.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- g. Holland et al. (US 5,455,934).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Barton whose telephone number is 571-272-8157. The examiner can normally be reached on Monday - Friday 8:30 - 5:00.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2186

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JB

Jonathan Barton  
Examiner  
Art Unit 2186



**MATTHEW D. ANDERSON**  
**PRIMARY EXAMINER**